June 8
1912

WORKING PLAN.

INVESTIGATIVE PROJECT NO. 1.

Methods of Marking & Cutting Idaho Yellow Pine.

Object: To determine best method of marking and cutting Idaho Yellow Pine by means of sample plots laid out in advance of logging on which different methods will be practiced.

Since this work must be confined to sale areas and preferably where close supervision can be exercised, it is proposed to execute the project on the Carpenter Creek cutting on the Payette Forest which will be made by the Forest Service local force.

The preliminary work should consist of a thorough survey and map of conditions on the entire cutting area and a specific description so far as possible of the general forest region.

Three methods are to be tested: The seed tree method, the selection method, and clear cutting in strips or groups on two or possibly three quality sites, north slope, south slope, and basin.

One five acre plot should be laid out with the three different methods on both north and south slopes making thirty acres of plot at least. If there is sufficient distinction in age classes, one 5 acre plot should be laid out in each well defined age class of sufficient extent. The basin site, where sufficiently pronounced, should also have at least one plot. Each plot should preferably be a strip running up and down the

slope or across the basin; the conditions within each plot should be as nearly uniform as it is possible to get a representative area. A convenient size for extensive work such as marking, cutting, and brush disposal, is 5x10 chains; they may be, of course, lengthened or shortened as the needs of the case requires. The width, however, should not vary.

Additional plots will be necessary where a sufficient percentage of an associated species enters into the stand or reproduction. It will be particularly advisable to treat an encroachment of Lodgepole Pine with sample plots. If not possible for lack of time or funds to make the large plots, reproduction plots should at least be laid out in the areas where Lodgepole reproduction is encroaching.

In the selection method it will be desirable to have three degrees of cutting: (1) light improvement, (2) removal of 1/3 of merchantable, (3) of 2/3 of merchantable.

Laying out the Plots.

After the tract has been covered with a preliminary survey, the plots should be located with the most careful consideration for their object. There should be two classes of plots, large plots for extensive work 5x10 chains, small plots for reproduction counts and other intensive work 50x100 feet.

Since there are three methods of cutting to be tested on two sites, six of the major plots will be required. Of the reproduction plots, three should be placed in each of

the major plots or 18 in all.

In the record of each plot there should be three parts, I. Diagram (without use of colors in order that it may be readily duplicated), II. Tabulated data, III. Descriptive data.

An essential thing is the tie in point which should be clearly described and shown by the diagram, distance, direction and angle with one of the plot boundary lines.

I. Diagram.

The diagram should be drawn to a convenient scale and should show graphically, without using colors, the number, species, and location of the trees, except small trees over 12 feet high and under 4 inches diameter breast high. It should also show the location of groups of reproduction, underbrush, brush piles and anything else which will affect the plot and can be shown graphically as contours and other topographic features.

The boundaries, character of corner marks and of the tie-in point should, of course, be shown.

In mapping, lines should be run at one chain distance with map stations every two chains in order to locate accurately the trees, groups of reproduction, underbrush, brush piles, etc.

It should be stated on the diagram the method of cutting used. Other important points should be given; the aim being to make the diagram comprehensive and independent, so far as essentials are concerned, from other descriptions of the

plot.

II. Tabulated Data.

The tables should show the species, diameter, height, class, character of each tree by number.

The following forms should be used:

Forest _____ Tallied by _____

Plot No. _____ Measured _____

Location _____ _____

_____ _____

Date _____

Size _____

Tree No.	Species	Diameter Breast High	CLASS Dominant, Intermediate or Suppressed	Height

Reproduction Plot No. _____ Tallied by _____

Location _____ Counted by _____

Date _____ _____

Size _____ _____

Species	0-3 in.	Age	3-6 in.	Age	6-12 in.	Age	12-18 in.	Age	18-24 in.	Age	2-3 ft.	Age	3-4 ft.	Age	

Species	4-5 ft.	Age	5-6 ft.	Age	6-7 ft.	Age	7-8 ft.	Age	8-9 ft.	Age	

III. Descriptive Data.

The object of the plot and the method by which it is expected to be accomplished should be stated briefly.

The following items should be filled out: Date of measurement, elevation, slope, exposure, rock formation, soil character, depth and moisture, average annual rainfall, length of growing season, depth of snowfall, detailed description of underbrush and a detailed description of soil cover.

Cost.

Sample plot work in other localities has ranged as high as $15.00 per acre of plot; it will, of course, depend largely on the amount of detail taken and the density of the stand. The total cost will include surveying, marking boundaries, measuring and recording data on the plots.

On the Carpenter Creek cutting it is figured that two men can lay out a five acre plot and complete it in five days. The salary and expense of each man per day will reach $5.00 and total per plot of $50.00 or at the rate of $10.00 per acre. This will also include the extra cost for marking the trees in the plots to be felled; this marking to be done at the time the plots are laid out.

A month will be necessary in laying out the six plots and the total cost will be $300.00.

In addition to the major plots will be the reproduction plots which should not exceed $20.00 or 2 days work for two men. The total cost for 18 plots should not exceed $300.00.

Should additional quality sites and mixtures exist

in which it is also advisable to have sample plots established, the number should be doubled if funds are available. The aim should be to have one plot at least for each site or quality.

Subsequent Work.

After the cutting is done the plot should again be surveyed and mapped and at intervals of every three years afterward for a period of at least one cutting cycle or 60 years.

The reproduction plots should be remeasured each year after cutting takes place for a period of 5 years.

Conclusion.

The first essential is the location of the plot and substantial and permanent marking.

The second is careful mapping and recording of the tabulated data.

The third is a complete and full description of all points necessary to explain the conditions affecting the plot.